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### ABSTRACT

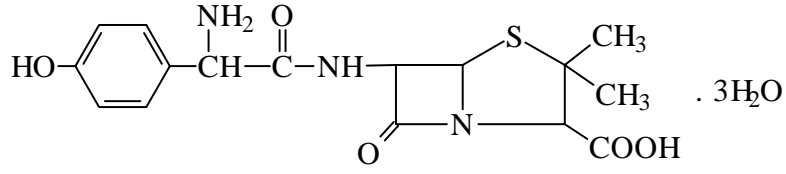
A simple, rapid and sensitive spectrophotometric method for the determination of amoxicillin was developed. The method is based on the proton transfer reaction with alizarin red sulphonate in aqueous neutral solution to form a violet product showing a maximum absorbance at 530 nm with a molar absorptivity of  $8090 \text{ l.mol}^{-1}.\text{cm}^{-1}$ . Beer's law is obeyed over the concentration range  $(1-20) \mu\text{g.ml}^{-1}$  with the accuracy (average recovery) 100.52% and the precision (RSD) less than 2%. The method was successfully applied for the determination of amoxicillin in pharmaceutical formulation as injection and the results were in good agreement with the standard addition procedure.

%100.52 ( ) ( - )  
. %2 ( )



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:( ) (α-amino-p-hydroxy benzyl penicillin)



Amoxicillin

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(bacillary dysentery)

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( ) HPLC

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( ) (DDQ)

( ) (TCNE)

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Mo(v)-thiocyanate

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Shimadzu UV-210 Double Beam Spectrophotometer

Mettler H

(pH meter)

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. CE10-12 pH

Philips PW 9420

. Forst Instruments, LTD

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ARS

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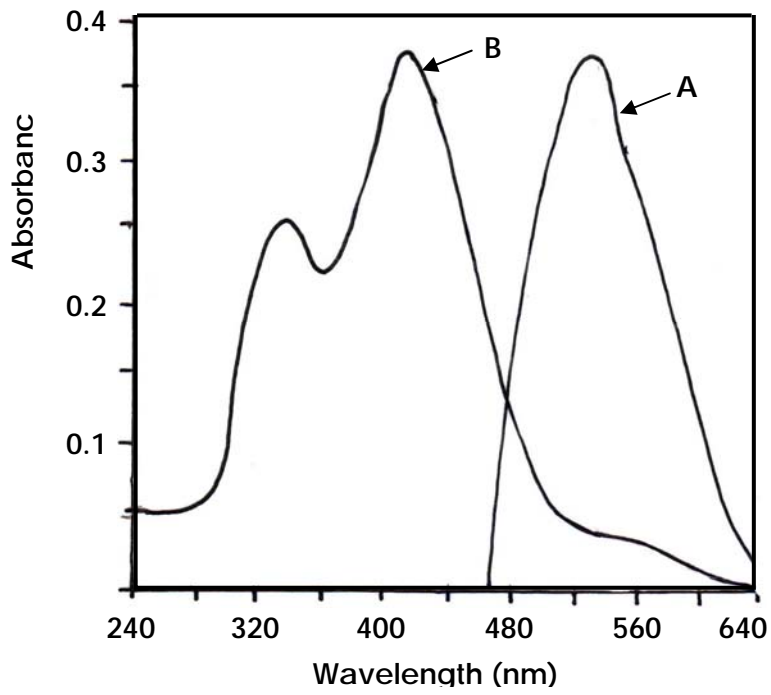
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(25°C)

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(25°C)

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Temp. (°C)	Absorbance							
	Time (min)				Time (hour)			
	10				1	1.5	2	
0	0.10	0.11	0.10	0.10	0.09	0.08	0.08	
R.T*	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
40	0.09	0.10	0.10	0.10	0.09	0.10	0.10	0.10
50	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09

\* Room temperature (25 C°)

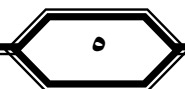
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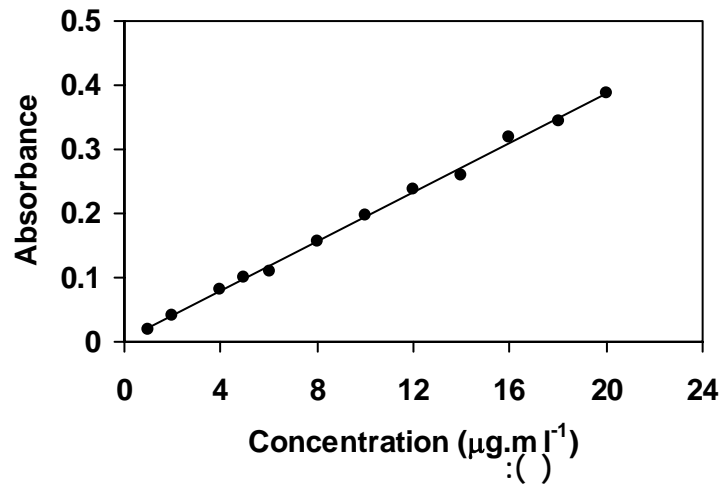
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Volume of ARS solution $1 \times 10^{-3}$ M (ml)	1	1.5	2	2.5	3.0
Absorbance	0.03	0.05	0.10	0.06	0.06





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Drug	Linearity range $\mu$ (g.ml <sup>-1</sup> )	Molar absorptivity (L.mol <sup>-1</sup> .cm <sup>-1</sup> )	Slope	Intercept	Correlation coefficient
Amoxicillin	1-20	8090	0.0193	0.0011	0.9979

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Compound	Amount added ( $\square$ g.ml <sup>-1</sup> )	Recovery* (%)	Average recovery (%)	RSD* (%)
Amoxicillin trihydrate	8	100.64	100.52	1.80
	10	100.50		1.53
	12	100.42		1.39

\* Average for six determinations.

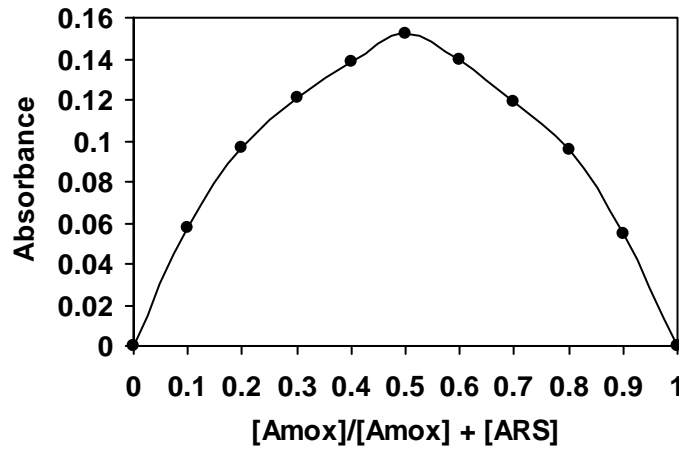
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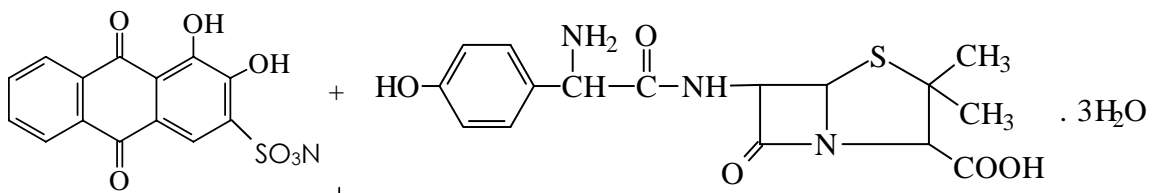
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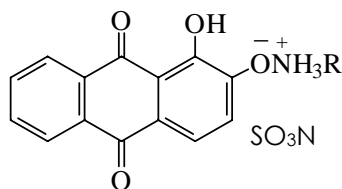
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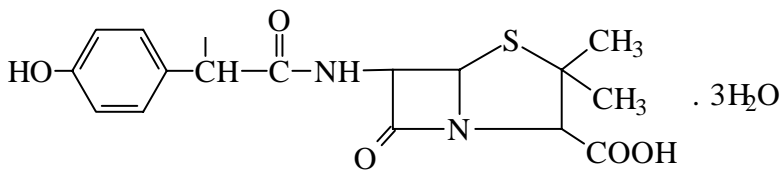


Alizarin Red

Amoxicillin



Violet PT product



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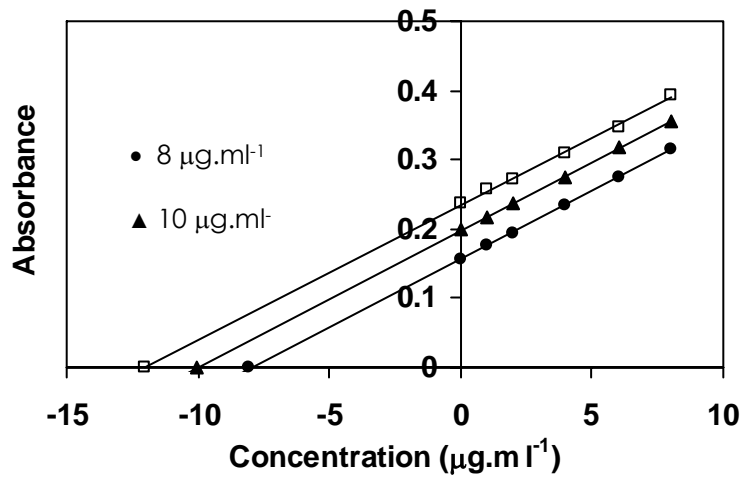
Pharmaceutical preparation	Certified	Found	Recovery* (%)	Average recovery.
Amoxicillin Ampoule SDI- Iraq	500	501.46	100.28	100.32
		502.95	100.59	
		500.40	100.08	

\* Average For six determinations

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Pharmaceutical preparation	Certified value (mg)	Amount present (µg.ml <sup>-1</sup> )	Drug content found (µg)	Recovery* (%)
Amoxicillin Ampoule	500	8	503.15	100.63
		10	501.00	100.20
		12	502.50	100.50

For three determinations.

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